

Appl. No. 10/064,044
Amdt. dated December 14, 2004
Reply to Office action of October 27, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

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Listing of Claims:

Claim 1 (Currently Amended): A method of detecting disk defects in an optical disc for an optical disc drive including an optical pickup, the method comprising the steps of:
emitting light from the optical pickup onto the optical disc and obtaining reflected

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sub-beams;

generating a reflected light intensity signal based on the reflected sub-beams;

obtaining a low-frequency signal from the reflected light intensity signal;

holding the low-frequency signal when a difference between the reflected light intensity signal and the low-frequency signal is greater than a predetermined

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value; and

generating a defect signal when a difference between the reflected light intensity signal and the held low-frequency signal is greater than the predetermined value

[[.]] ; and

holding the held low-frequency signal substantially constant for the duration of the

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generated defect signal.

Claim 2 (Original): The method of claim 1 wherein the low-frequency signal is held by a capacitor.

25 Claim 3 (Original): The method of claim 1 wherein the reflected light intensity signal is generated by summing intensities of the reflected sub-beams.

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Claim 4 (Original): The method of claim 1 wherein the low-frequency signal is the result of averaging the reflected light intensity signal over a time period defined by a predefined time constant.

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Claim 5 (Original): The method of claim 1 wherein the low-frequency signal is obtained by passing the reflected light intensity signal through a low-pass filter.

Claim 6 (Original): The method of claim 1 wherein at least one comparator is used to compare the difference between the reflected light intensity signal and the held low-frequency signal with the predetermined value.

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Claim 7 (Original): The method of claim 1 wherein when a difference between the reflected light intensity signal and the held low-frequency signal is within the predetermined value, the held low-frequency signal is no longer held.

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Claim 8 (Currently Amended): A method of detecting disk defects in an optical disc for an optical disc drive including an optical pickup, the method comprising the steps of: emitting light from the optical pickup onto the optical disc and obtaining reflected sub-beams;
generating a reflected light intensity signal based on the reflected sub-beams;
obtaining a low-frequency signal after the reflected light intensity signal is processed through a low-pass filter; and
storing the low-frequency signal with a capacitor if a defect signal indicating existence of the disk defects appears based on a difference between the reflected light intensity signal and the low-frequency signal [[.]] ; and
electrically disconnecting the capacitor from the reflected light intensity signal if the defect signal appears.

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Claim 9 (Cancelled)

5 Claim 10 (Original): The method of claim 8 wherein the reflected light intensity signal is generated by summing intensities of the reflected sub-beams.

10 Claim 11 (Original): The method of claim 8 wherein the low-frequency signal is the result of averaging the reflected light intensity signal over a time period defined by a predefined time constant.

15 Claim 12 (Original): The method of claim 8 wherein the low-frequency signal is obtained by passing the reflected light intensity signal through a low-pass filter.

20 Claim 13 (Original): The method of claim 8 wherein at least one comparator is used to compare the difference between the reflected light intensity signal and the stored low-frequency signal with the predetermined value.

25 Claim 14 (Original): The method of claim 8 wherein when a difference between the reflected light intensity signal and the stored low-frequency signal is within the predetermined value, the stored low-frequency signal is no longer held.

30 Claim 15 (Previously Presented): An optical disc drive for use in a recording and/or data reproduction system utilizing a defect management system, the optical disc drive comprising:
35 an optical pickup capable of emitting light onto an optical disc and obtaining reflected sub-beams;
40 a low-pass filter for obtaining a low-frequency signal from a reflected light intensity signal, the reflected light intensity signal being based on the reflected sub-beams;
45 a holding circuit for holding the low-frequency signal when a difference between the

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reflected light intensity signal and the low-frequency signal is greater than a predetermined value; and

- 5 a switch electrically disconnecting the low-pass filter from the reflected light intensity signal when a difference between the reflected light intensity signal and the low-frequency signal is greater than the predetermined value.

Claim 16 (Cancelled)

- 10 Claim 17 (Previously Presented): The optical disc drive of claim 15 further comprising a subtractor for generating the difference between the reflected light intensity signal and the low-frequency signal.

Claim 18 (Cancelled)

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Claim 19 (New): The method of claim 2 further comprising electrically disconnecting the capacitor from the reflected light intensity signal for the duration of the generated defect signal.

- 20 Claim 20 (Cancelled)